



**UNITED STATES DEPARTMENT OF COMMERCE**  
**United States Patent and Trademark Office**

Address: COMMISSIONER OF PATENTS AND TRADEMARKS  
Washington, D.C. 20231

AD

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
-----------------	-------------	----------------------	---------------------

09/695,604 10/24/00 HINTZ

D 550270.90972

026710  
QUARLES & BRADY LLP  
411 E. WISCONSIN AVENUE  
SUITE 2040  
MILWAUKEE WI 53202-4497

MM91/0607

EXAMINER

GONZALEZ, J.

ART UNIT

PAPER NUMBER

2834

DATE MAILED:

06/07/01

**Please find below and/or attached an Office communication concerning this application or proceeding.**

**Commissioner of Patents and Trademarks**

# Office Action Summary

Application No.

09/695,604

Applicant(s)

HINTZ ET AL.

Examiner

Julio C. Gonzalez

Art Unit

2834

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claims \_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 October 2000 is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. § 119

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

## Attachment(s)

- 15) ☒ Notice of References Cited (PTO-892)
- 16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 17) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 5.
- 18) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_.
- 19) ☐ Notice of Informal Patent Application (PTO-152)
- 20) ☐ Other: .

## DETAILED ACTION

### *Specification*

- ✓ 1. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

The following title is suggested: Method and apparatus for sensing variable currents within the alternator of a genset having an amplifier with a feedback resistor, an adjustment resistor connected in series with a switching element and the feedback resistor is connected in parallel to the adjustment resistor and switching element and the method and apparatus having an additional feedback resistor coupled in parallel with a combination of an additional adjustment resistor and an additional switching element.

### *Drawings*

- ✓ 2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character "514" has been used to designate both output port and second feedback resistor. Correction is required.
3. The drawings are objected to because in claim 10 applicant discloses an additional feedback, however the additional feedback is not connected to the output of the amplifier, but to the processor. Correction is required.

### ***Claim Rejections - 35 USC § 112***

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Art Unit: 2834

5. Claims 2, 4, 12, 15, 17 and 21 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Applicant discloses that at least a field effect transistor, a metal oxide semiconductor transistor and a bipolar transistor. Is that means that the switching means will include all of those components at the same time? Two components? More?

In claim 4, applicant discloses the use of a formula to determine the current. How is the current determine? How was the formula derived? What are these multiplicative factors? How does applicant know that formula will give desired output values? How does this formula looks like?

In claim 12, how current transformation know how to pick the fourth signal? What is meant by "current lever within the alternator from the alternator"? How can the alternator provide a first signal if it might have the fourth signal?

In claim 21, the measured current values being determined, what are the parameters of these values? What is considered excessive current and heat?

### ***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Art Unit: 2834

7. Claims 1, 3-9, 11-16 and 18-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Seale et al in view of Yamaguchi.

Seale discloses a system for sensing current levels comprising an amplifier 530, a processor 520 coupled to the output, an analog-to-digital converter 540 and a current transformer 507.

However, Seale et al does not disclose a feedback system in the amplifier.

On the other hand, Yamaguchi discloses for the purpose of reducing amplification error due to analog and resistance elements, an operational amplifier 1 having an input resistor  $R_{in}$ , a feedback resistor  $R_1$ , connected between the input and output, an adjustment resistor  $R_2$  and a switching element SW2 coupled in series between the input and output, in parallel with the feedback resistor (see figure 1).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to design an amplifier connected to an analog to digital converter and a processor as disclosed by Sealed et al and to use a feedback resistor, an adjustment resistor and a switch for the purpose of reducing amplification error due to analog and resistance elements as disclosed by Yamaguchi.

8. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Seale et al in view of Yamaguchi and Ashley et al.

Seale discloses a system for sensing current levels comprising an amplifier 530, a processor 520 coupled to the output, an analog-to-digital converter 540 and a current transformer 507.

Art Unit: 2834

However, Seale et al does not disclose a feedback system in the amplifier.

On the other hand, Yamaguchi discloses for the purpose of reducing amplification error due to analog and resistance elements, an operational amplifier 1 having an input resistor  $R_{in}$ , a feedback resistor  $R_1$ , connected between the input and output, an adjustment resistor  $R_2$  and a switching element SW2 coupled in series between the input and output, in parallel with the feedback resistor (see figure 1).

However, neither Seale et al nor Yamaguchi et al disclose the use of a transistor as a switch.

On the other hand, Ashley et al uses FET 115 in series with a resistor 114 for the purpose of having an equal voltage drop and improving stability in the circuit.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to design an amplifier connected to an analog to digital converter and a processor as disclosed by Sealed et al and to use a feedback resistor, an adjustment resistor and a switch for the purpose of reducing amplification error due to analog and resistance elements as disclosed by Yamaguchi and to use FET transistors as switches for the purpose of having an equal voltage drop and improving stability in the circuit as disclosed by Ashley et al.

9. Claims 2 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Seale et al in view of Yamaguchi and ordinary skill in the art.

Seale discloses a system for sensing current levels comprising an amplifier 530, a processor 520 coupled to the output, an analog-to-digital converter 540 and a current transformer 507.

However, Seale et al does not disclose a feedback system in the amplifier.

On the other hand, Yamaguchi discloses for the purpose of reducing amplification error due to analog and resistance elements, an operational amplifier 1 having an input resistor  $R_{in}$ , a feedback resistor  $R_1$ , connected between the input and output, an adjustment resistor  $R_2$  and a switching element SW2 coupled in series between the input and output, in parallel with the feedback resistor (see figure 1).

However, neither Seale et al nor Yamaguchi disclose a second feedback with a second adjustment resistor and a second switch.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate a second feedback resistor in parallel to a second adjustment resistor and second switch, since it has been held that mere duplication of the essential working parts of a device involves only routine skill in the art. *St. Regis Paper Co. vs. Bemis Co.*, 193 USPQ 8.

***Conclusion***


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Julio C. Gonzalez whose telephone number is (703) 305-1563. The examiner can normally be reached on M-F (8AM-5PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nestor Ramirez can be reached on (703) 308-1371. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7722 for regular communications and (703) 305-1341 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

Jcg

May 24, 2001

  
NESTOR RAMIREZ  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2800